# New Norms for Reference Desk Staffing Adequacy: A Comparative Study

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*Severe economic conditions have resulted in budget cutbacks and hiring freezes in many colleges, universities, and their libraries. With the financial crisis in higher education showing no sign of easing, libraries must use their staff efficiently. Norms for reference desk staffing were first compiled by Marjorie E. Murfin in 1983, using 1978–79 data from 73 academic libraries. In order to assess reference desk staffing adequacy ten years later and analyze comparatively any possible fluctuation, this article presents new norms using 1988–89 statistics from more than one hundred academic libraries. These norms may help libraries assess their current and desirable staffing levels and recognize potential problems in providing public service. They establish a basis of comparison with similar institutions and a method of appraisal for measuring the impact of change.*

he adequacy of public service desk staffing is a persistent and historical concern of library administrators. In the past decade, higher education institutions have faced severe economic constraints. Budget cutbacks and hiring freezes have become common in colleges, universities, and their libraries. Have these economic conditions affected reference departments' desk staffing and service?

Norms for reference desk staffing were first compiled by Marjorie E. Murfin in 1983, using a method recommended by the Library Administration and Management Association (LAMA) Task Force on Comparability of Reference Statistics and 1978–79 data collected from 73 academic libraries.[1] Dividing academic libraries into five groups by gate count/enrollment, Murfin calculated norms based on the number of reference transactions and the number of individual reference desk person-hours. In order to assess reference desk staffing adequacy ten years later and to analyze comparatively any possible fluctuation, the author has compiled new norms based on 1988–89 statistics from over 100 academic libraries across the United States and Canada. Such norms have implications for administrative policy and budget planning. They may help libraries assess their current and desirable staffing levels and recognize potential problems in providing public service by establishing a basis of comparison with similar institutions and a method of appraising the effects of change.

## METHOD

In order to facilitate comparability, as in the Murfin study, data were collected only on main library central reference

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desks. Survey data were requested from over 220 academic libraries at four-year institutions of all sizes. ARL member libraries at institutions of higher education were targeted first. The remaining libraries in the study were selected randomly from the *American Library Directory*, with attention given to providing a balanced representation of libraries by their size (based on holdings) and a minimum of two academic libraries from each state. Information requested in the survey included:

1. Gate (turnstile) count indicating the number of patrons in the library during a typical week (i.e., third to sixth week in the academic term) in the fall of 1988;
2. Number of hours the department is open for service;
3. Individual person-hours (number of individuals staffing the desk each hour it is open) for the reference desk in the same week;
4. Number of reference question transactions, using Higher Education General Information Survey (HEGIS) transaction definitions, for a typical week (i.e., third to sixth week in the academic term) in the fall of 1988, preferably from or comparable to data supplied to the Higher Education General Information Survey (HEGIS).

The use of gate count to explain variance in the number of reference transactions has been supported by several studies, including one by John J. Regazzi and Rodney M. Hersberger, who found that the relationship between the number of reference transactions moderately correlated to the number of users present (.74 correlation).[2] Another study by Murfin and Fred Ruland found that .80 of the variation in the number of reference transactions could be explained by two factors: (1) the number of library patrons present, and (2) the number of individual reference desk person-hours during that time period.[3] By using both gate count and person-hours, it is possible to estimate the probable number of reference transactions during a typical week. When libraries with similar gate counts were studied, the library with more person-hours usually had the larger number of reference transactions.[4] While gate count is one of the best predictors of public service activities since it tallies actual library users, it is not always recognized as such. Some libraries do not take a gate count, while others sometimes take it in an inaccurate, careless fashion. Certain organizational factors can sometimes inflate gate count. Such circumstances as the presence of academic classrooms in the library building or the library serving as a walkway connecting other classroom buildings were taken into account when determining which returned surveys had usable sets of data for compiling new norms.

In a few cases enrollment was substituted for gate count, though it is a less desirable statistic to use in compiling the new norms. Calculating reference desk staff person-hours for a sample week is accomplished by counting the number of individuals staffing the reference desk each of the hours the desk is open for service. This information can usually be obtained quite easily by referring to the weekly reference desk schedule. These numbers are then totalled to obtain the person-hours per week. The number of person-hours is also a good predictor of public service activities. Richard Strayner, in his study of public library effectiveness, found person-hours data to have the highest correlation of all the performance measures he assessed.[5] Murfin's study of 1978 norms also recognized the significance of person-hours in assessing the adequacy of reference desk staffing. Using person-hours data, reference transactions totals, and gate count it is possible to assess factors such as library demand, individual workloads, and potential workloads.

Reference transaction totals are most important when studying the workload of staff, especially since workload may affect the quality of service provided. The number of reference transactions in relation to gate count may also shed light on the level of success a reference department has reaching its users. While many

libraries are accustomed to recording statistics at the reference desk, it is recognized that there are some dangers in attempting to use such data. Some libraries do not apply the HEGIS definitions for reference and directional questions strictly when recording reference desk transactions. The knowledge of the actual workload of reference librarians would be enhanced if a differentiation by type of reference question and time spent answering were included in the study; however, this information is not collected in a sufficient number of libraries at the present time. Unorthodox methods of gathering statistics were also revealed in a few instances. Every attempt was made to verify the validity of any unusual or questionable survey responses. When the factors mentioned above were present, that institution's survey data were omitted. Only a small number of libraries fell into this category. The author also recognizes that some library reference departments and their desk staff are more conscientious than others in collecting reference transaction data. How-ever, while some librarians may underrecord reference transactions, others may overestimate the number of their transactions, preserving the value of these data.

With many different sections of a university competing for diminishing economic resources, library administrators must use relevant performance indicators and output measures to demonstrate the ability of the library to manage its resources congruent to its mission. Reference service has always been perceived as difficult to quantify and therefore assess, but many reference departments already record statistics in several areas of activity. With an emphasis on accountability in the face of the present economic climate, reference departments and library administrators should consider the ways in which quantifiable data (often already available) can be useful. By using gate count and person-hours, it may be possible to explain some of the disparity between similar libraries' differing reference question transaction totals and to help identify staffing inadequacies.

More than 60% of the surveys were returned, 103 libraries providing usable sets of data. Of these, 26 libraries (25%) were included in the Murfin study of 1978–79 norms. In order to facilitate comparison with the Murfin study, returned library survey data were again stratified into five groups by their gate counts (occasionally substitution was made with their institution's enrollment). Sixty-one libraries had less than 20,000 library users, and 42 libraries had more than 20,000 library users, based on their gate counts for one week.

When gate counts increase and person hours decrease ... the quality of reference service may suffer.

In order to preserve the comparability of the two studies, the present data are defined (as in the Murfin study) in the following way:

Group I     Under 10,000 gate count
Group II    10,000–19,999 gate count
Group III   20,000–29,999 gate count
Group IV    30,000–39,999 gate count
Group V     40,000 plus gate count

Several key areas in the assessment of reference desk staffing adequacy include demand, potential demand, and workload. Using the data from returned surveys, the author compiled new norms for each of the above library groups by size.

MEASUREMENT AND NORMS

Norms are imperfect approximations and should not be used to provide absolute answers. Rather, they are only one of many tools for assessing the adequacy of staffing. Norms should not be used as standards since they represent the existing situation, which may fall far short of the most desirable level. Attempts were made to identify reference departments with such dissimilar physical configurations as to threaten the comparability of the norms. Some libraries with subject

division arrangements (separate reference desks), or where no central general reference desk service could be identified, are two examples of dissimilar configurations that were revealed. In cases such as these, the author chose to exclude data and maintain the integrity of the norms being compiled. If a library, comparing itself to the norms of libraries of the same size, should fall outside the norms presented here, it should exercise care in its interpretation, considering any possible differences in usage, individual internal structure, or other factors which might account for it. These norms should act primarily to alert libraries to possible staffing inadequacies, and to help reference departments and administrators to monitor reference desk staffing in their libraries on an ongoing basis.

## GATE COUNT AND DEMAND

As previously stated, gate count has a high correlation to the number of reference transactions a library will log. This makes gate count an important variable to consider in any study of reference desk staffing adequacy. Table 1 illustrates the average gate count of each of the five library groups during 1978 and again in 1988.

The average gate counts do not generally show an increase, except in group V. The most dramatic increase in the number of users appears to be in the largest libraries (group V), where the 1988 average gate count reflects a 6% increase. This information alone may have limited value, but if it is used to study demand and other factors relevant to staffing adequacy, then its significance may become more apparent.

### TABLE 1
### GATE COUNT: USERS
### IN THE LIBRARY

|          | 1978   | 1988   |
|----------|--------|--------|
| Group I  | 6,029  | 6,051  |
| Group II | 14,978 | 15,014 |
| Group III| 23,794 | 23,699 |
| Group IV | 34,574 | 33,827 |
| Group V  | 42,508 | 45,208 |

Historically, librarians have focused on the number of reference transactions as the key to assessing patron demand at the reference desk. By examining reference transactions over an extended period of time (i.e., an academic term), librarians can learn when the greatest volume of reference questions are asked. However, this method does not account for those patrons who walk away during busy periods without receiving assistance or for patrons who simply do not approach because they are dissuaded by long queues and the prospect of a long wait at the desk. For this reason, when considering reference desk staffing adequacy it is important not to equate the number of reference transactions with demand. As previously stated, studies have shown that if the number of users (gate count) were equal among libraries, then the one with more person-hours staffing the desk would be most likely to have the highest total of reference transactions. Therefore, the number of reference transactions is only representative of demand demonstrated and met within the limitations of current staffing.[6] Table 2 illustrates the average number of reference questions received in each of the five library groups during a typical week in 1978 and 1988.

Three of the five groups show an increase since 1978 in the average number of reference questions received during the sample week, and the average number of reference questions received overall increased 6% between 1978 and 1988. The same library groups that showed the increase in average gate count also showed an increase in the average number of reference question transactions. Group I libraries (gate counts under 10,000) had the largest average increase in reference transactions handled, with a 12% increase, followed by group V libraries (the largest libraries, with gate counts of 40,000 plus) with an increase of 9%, and group II libraries (gate counts 10,000–19,999) with an increase of 5%.

One measure used in the Murfin study to assess the extent to which reference service is meeting demand is the ratio of library users per reference question. This

**TABLE 2**
**REFERENCE QUESTION**
**TRANSACTIONS**

|          | 1978  | 1988  |
|----------|-------|-------|
| Group I   | 337   | 378   |
| Group II  | 898   | 939   |
| Group III | 1,320 | 1,228 |
| Group IV  | 1,158 | 1,054 |
| Group V   | 1,276 | 1,387 |

**TABLE 3**
**DEMANDS AS MET BY PRESENT**
**STAFFING: REFERENCE QUESTION**
**RECEIVED IN PROPORTION**
**TO USERS PRESENT**

|          | 1978       | 1988       |
|----------|------------|------------|
| Group I   | 1 in 17.86 | 1 in 16.00 |
| Group II  | 1 in 16.68 | 1 in 15.99 |
| Group III | 1 in 18.02 | 1 in 19.30 |
| Group IV  | 1 in 29.84 | 1 in 32.09 |
| Group V   | 1 in 33.30 | 1 in 32.59 |

**TABLE 4**
**GATE COUNT:**
**USERS IN THE LIBRARY**

|          | 1978  | 1988  |
|----------|-------|-------|
| Group I   | 5.6%  | 6.2%  |
| Group II  | 6.0   | 6.2   |
| Group III | 5.5   | 5.2   |
| Group IV  | 3.4   | 3.1   |
| Group V   | 3.0   | 3.1   |

**TABLE 5**
**PERSON HOURS**
**AT CENTRAL REFERENCE DESK**

|          | 1978  | 1988  |
|----------|-------|-------|
| Group I   | 92    | 86    |
| Group II  | 141   | 129   |
| Group III | 161   | 164   |
| Group IV  | 147   | 129   |
| Group V   | 169   | 170   |

is attained by dividing the HEGIS week gate count by the number of reference questions during the same week. Table 3 displays library demand as met by present staffing from the 1978 data survey and the author's study based on 1988 data.

Another measure used by Murfin to determine the capacity of reference departments to reach their users is the percentage of library users involved in asking reference questions. This is an alternative way of using the same data to study demand. To obtain this percentage, the total number of reference questions for each group was divided by the total gate count in the same group. Table 4 shows the results of this measure using 1978 and 1988 data.

There may be several possible reasons why the libraries with the largest gate counts seem to be reaching the smallest percentage of their users. One likely explanation is that while gate counts increase in libraries, person-hours staffing the reference desk rarely increase proportionally. Another reason, cited in several studies, is that as gate count increases, fewer patrons in the library will ask reference questions. Waiting to consult a librarian, queuing at the reference desk, and competing for the assistance of reference desk personnel will discourage some patrons from getting the help they need.[7] Eventually high gate counts may reach a point at which current staffing can no longer assist patrons at the same level of success (percentage of patrons reached) and/or maintain the standard or level of reference service a library has traditionally offered its patrons. If it is desirable to improve or maintain the level of success and/or the standard of reference service in a library, then it is appropriate to monitor library demand.

## PERSON-HOURS AND WORKLOAD

To appreciate fully the impact of fluctuations in gate count and reference transactions on the adequacy of reference desk staffing, it is necessary to scrutinize the individual person-hours scheduled at the reference desk during the same survey week. Table 5 reveals

TABLE 6

| | Gate Count | | Reference Transaction | | Person Hours | |
|---|---|---|---|---|---|---|
| | 1978 | 1988 | 1978 | 1988 | 1978 | 1988 |
| Library A (Group II) | 11,300 | 15,189 | 1,017 | 2,231 | 102 | 81 |
| Library B (Group III) | 13,500 | 39,301 | 1,069 | 1,385 | 218 | 131 |
| Library C (Group V) | 40,140 | 46,041 | 2,746 | 1,877 | 240 | 201 |

the person-hours norms for each library group (by gate count size) in 1978 and 1988.

While the total average gate count and the number of reference transactions increased 7% and 6% respectively, new norms for person-hours staffing the reference desk indicate a total average decrease of 3%. Certain individual libraries that participated in both data studies showed such extreme increases or decreases in some areas that might warrant special attention and caution. Table 6 gives several examples of such libraries.

Libraries A and B in table 6 have substantially increased their reference transactions and gate counts, despite a sizable decrease (21% and 40% respectively) in their person-hours at the reference desk. Library C increased its gate by 15%, but decreased its person-hours by 16% and reference transactions by 31%. Library C is possibly responding to the increased gate count and lower person-hours at the reference desk in a different manner than libraries A and B. When gate counts increase and person-hours decrease significantly outside the norms, as in these examples, the quality of reference service may suffer as staff members may try to compensate to satisfy the growing demand of users, or the number of reference transactions will also decline proportionately as desk staff try to prevent an erosion of quality in reference service. Although individual library circumstances might be responsible for some disparities, differences outside the norms, such as those in table 6, should alert administrators to the possibility of a severe problem in staffing adequacy.

Among the matching 26 libraries that participated in both the 1978 and 1988 studies, 16 (62%) had increases in the number of reference transactions and 14

(54%) had fewer person-hours staffing the desk (one library maintained the same number of person-hours). The matching library groups have shown the most fluctuation in the largest size (by gate count) libraries. The matching libraries in group IV (gate counts 30,000–39,999) show an average increase of 20% in gate count (users), while average person-hours and reference transactions have declined 20% and 3% respectively. Group V of the matching libraries increased its average gate count 44% and reference transactions 10%, while average person hours decreased 14% between 1978 and 1988. When analyzing a specific library's person hours, it is important to evaluate in terms of reference transactions and gate count and also to consider the goals and mission of the library.

Individual workload of reference desk staff is another important factor in assessing staffing adequacy, as well as the quality of reference service. Workload is obtained by dividing the number of reference questions by the number of person-hours during the same typical week. Table 7 illustrates the new norms for individual workload with the 1978 norms sized by their gate counts.

Four of the five groups, excluding group III, in table 7 increased their average individual workloads at the reference desk. The overall average workload increased 8% between 1978 and 1988. While groups I and II (the smallest by gate count) have increased their average workloads the most, 26% and 14% respectively, these libraries may be better able to handle moderate increases because of their smaller sizes. Groups IV and V, increasing their workloads by 3% and 8% respectively, may have some libraries extending themselves beyond

## TABLE 7
### INDIVIDUAL WOKLOAD NORMS

|           | 1978 | 1988 |
| --------- | ---- | ---- |
| Group I   | 3.49 | 4.41 |
| Group II  | 6.36 | 7.28 |
| Group III | 8.20 | 7.48 |
| Group IV  | 7.88 | 8.15 |
| Group V   | 7.55 | 8.16 |

## TABLE 8
### POTENTIAL WORKLOAD NORMS
### BASED ON GATE COUNT

|           | 1978  | 1988  |
| --------- | ----- | ----- |
| Group I   | 65.5  | 70.4  |
| Group II  | 106.2 | 116.4 |
| Group III | 147.8 | 144.5 |
| Group IV  | 235.2 | 262.2 |
| Group V   | 251.5 | 265.9 |

what is desirable for quality service because of their increasing gate counts/enrollments and reference transactions and their declining average person-hours.

Potential workload attempts to measure the adequacy of staffing based on potential patron use and to assess what impact this might have on the workload of reference desk staff. Potential workload is calculated by dividing the number of users (gate count) in the library by the number of person hours staffing the desk during the same week. Gate count is preferred over enrollment data; however, studies have shown both to be good predictors of library usage. Table 8 shows the norms for potential workload based on gate count in 1978 and 1988.

Potential workload norms have increased an average of 10% overall between 1978 and 1988, as illustrated in table 8. While enrollments and gate counts have increased in recent years, many libraries have reduced person-hours in staffing due to budgetary constraints. As has been stated previously, the number of reference questions is closely correlated to the number of person-hours. As gate count increases and person-hours decrease the percentage of users reached will most likely also decline. If reference librarians increase their workloads well above the norm to assist the increasing volume of patrons, quality of service may suffer. Potential workload may be helpful in examining reasons why a library is reaching a lower percentage of its users than is desired. Murfin showed that potential patron workloads of more than 300 have a strong and dire effect on the number of patrons able to receive service.[8] Libraries with potential patron workloads exceeding 200 have shown a tendency to fall short of a "good" level of reference success in the Wisconsin-Ohio Reference Evaluation Program, a project of Marjorie Murfin (Ohio State University Libraries) and Charles Bunge (University of Wisconsin-Madison).[9] Nineteen of the surveyed libraries in the present study exceeded 200

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in potential patron workload. Three of these libraries participated in the Wisconsin-Ohio Reference Evaluation Program measuring reference quality and success. All three fell below the rating established as "good."

## SUMMARY

At present the fluctuation of norms for reference desk staffing is not yet alarming. However, evidence suggests a decline of person-hours in reference staffing and in the ability of staff to accommodate an increased volume of users. This deterioration has not yet reached a crisis stage, but does warrant continued study to prevent further decline. Certain libraries, based on their survey data, have already reached what for them may be a crisis stage in staffing. Only careful study by these individual libraries will determine if indeed this is the case.

With the economic crisis in higher education becoming more severe in recent years, it is essential for libraries to use their staff efficiently and effectively. By

assessing the adequacy of desk staffing and comparing it with similar institutions, it may be possible to gain some insight for the future.

How are reference departments adjusting to increased service demands and queuing at the desk? Some libraries have reduced the number of reference service points or cut hours, eliminated or restricted phone reference, and/or reduced the provision of tours and individualized bibliographic instruction classes. Other libraries have made changes in public service desk staffing. One of these changes is the initiation of the information desk or catalog assistance desk, often staffed by students or support staff. More than forty of the responding libraries in the present data study have an information desk, many initiated in the past ten years. Another staffing change reported by surveyed reference departments was the increased use of paraprofessional and student assistants at reference service points. Future studies of reference staffing might examine any subsequent effect these changes may have on reference service.

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